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viaEDGE™

The Development and Validation of a Self Assessment of Learning Agility

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Executive Summary

The purpose of this technical report is to review the development and validation of a new self assessment of learning agility. The viaEDGE™ instrument was designed to measure Overall Learning Agility, as well as the following five different facets of the construct: (a) Mental Agility, (b) People Agility, (c) Change Agility, (d) Result Agility, and (e) Self-Awareness. Given the difficulty of measuring learning agility via a self assessment methodology, several verification scales were included to ensure that respondents' scores were accurate. A score adjustment mechanism also was developed into the instrument to further ensure the veracity of the self assessment.

Data were collected from 12 organizations representing a number of different industries, including health care, communications , education, business services, and technology. Approximately 1000 individuals participated. The following statistical analyses were conducted:

- Item and Factor Analyses – to explore and confirm the number of dimensions and items on the assessment.
- Internal Reliability Analyses – to examine the extent to which items within each dimension (or scale) were related.
- Construct Validation Analyses – to investigate the relationship between scores on the new instrument with two established measures of learning agility (i.e., *Choices*® and *Learning from Experience*). In addition, the *Hogan Personality Inventory* and *Hogan Development Survey* as well as *Decision Styles* were administered to ascertain the extent of their overlap with viaEDGE™.

In addition, various subgroup analyses were performed to determine whether there was any evidence of adverse impact.

Overall, the results were consistent and positive. Factor analysis yielded a robust five-factor structure that reflected the proposed model of learning agility. Verified against other learning agility assessment methods, this new viaEDGE™ instrument demonstrated strong convergent and discriminant validity. The reliability of the overall scale and the five subscales exceeded the established psychometric standard. In addition, the instrument appears to work equally well for all the subgroups we analyzed, in that no group scored consistently higher or lower than others. Hence, we found no evidence of adverse impact for gender, age, or ethnicity.

Based on the data collected and analyzed in this report, it is recommended that the new viaEDGE™ self assessment validly and reliably measures learning agility and is ready for commercialization. As discussed in the Concluding Remarks section, future research should continue to fine tune the instrument and demonstrate clear linkages to performance criteria.

Learning Agility: A Critical Attribute for Developing the Next Generation of Leaders

In the world of leadership, managerial transitions play a major role. Whether such transitions occur through job promotions, international assignments, special projects, or simply the increasing complexity of the managerial position over time, individuals today are expected to bend and flex with the growing needs of their organizations. Transitions can be extremely demanding, because individuals in these circumstances face novel situations that render existing routines and established behaviors inadequate. Transitions require insight and the flexibility to learn new ways of coping with unforeseen problems as well as new opportunities. Leaders who refuse to let go of entrenched patterns of behavior or who do not recognize the nuances in different situations tend to derail; whereas, successful leaders continue to develop on the job (McCall, Lombardo, & Morrison, 1988). Unfortunately, many leaders fail because they depend too much on what made them successful in the first place (Goldsmith, 2007). They stop learning what is needed to perform effectively as their roles change.

Learning agility is a relatively new construct increasingly recognized in the talent management field as vital for long-term leadership success (De Meuse, Dai, & Hallenbeck, 2010; Silzer & Church, 2009). Learning agility can be defined as the ability and willingness to learn from experience, and subsequently apply that learning to perform successfully under new or first-time situations. Individuals who are highly learning agile continuously seek out new challenges, actively seek feedback from others to grow and develop, and tend to be reflective. These individuals are likely to succeed when promoted, placed in to international assignments, or given challenging jobs (Lombardo & Eichinger, 2000).

Traditionally, the construct of learning agility has been conceptualized as multi-dimensional and measured via a multi-rater approach (cf. Eichinger, Lombardo, & Capretta, 2010). For several reasons, a multi-rater assessment has limitations. For example, ratings can be affected by the selection of who rates the learner and whether the rater had training in evaluation methods to minimize such common errors as rating leniency, the halo effect, and central tendency ratings. Further, rater fatigue and time demands can become a major problem with multi-rater assessments, particularly as one moves to higher levels in an organization. Thus, we set out to design, create, and validate an assessment of learning agility that could be administered directly to the individual. Such an instrument could greatly assist organizations to identify, select, and develop learning agile leaders.

Objective of the Project

Our fundamental objective was to design a psychometrically sound self assessment instrument that could be used to measure learning agility. Currently, Korn/Ferry has two instruments that assess this construct. *Choices*® is a multi-rater process that has been effectively employed in a variety of settings for many years. *Learning from Experience* or simply *LFE* is a structured interview protocol that enables organizations to quantify the level of learning agility job candidates possess. Likewise, it has a long history of successful applications in many companies. Our goal here was to develop an assessment of learning agility that can be administered directly to the individual himself or herself. The development of such an instrument would complement the Korn/Ferry learning agility assessment

product suite, in that organizations could choose among three different approaches to measure learning agility:

- An interview – *LFE*,
- A multi-rater tool – *Choices*®, and
- A self assessment – viaEDGE™.

Depending upon whether an organization's needs are internal selection, external selection, or high potential identification and development, one approach may be more appropriate than another.

A second objective was to create a reporting structure that could be interpreted easily by talent management professionals and executive coaches. In addition, it was important to create an easy to read report for the learner or test-taker (should the organization elect to provide a report).

The Challenge

The current business environment, as well as recent research, reveals that there is a strong interest in learning agility (cf. De Meuse et al, 2010; Kaiser & Overfield, 2010; Silzer & Church, 2009). Indeed, there would be several obvious applications of a valid, reliable self assessment. First, many times organizations desire a measure of learning agility when hiring external job candidates. In those instances, *Choices*® is not feasible. And, although *LFE* is possible, it is time consuming and expensive. In addition, interviewers must be trained in the *LFE* methodology and highly skilled. Secondly, a self administered measure of learning agility would be highly scalable to apply as a pre-employment screening tool. Thirdly, organizations sometimes do not want to use a multi-rater survey to assist in the identification and development of high potential talent. A self assessment offers a simpler and less organizational obtrusive approach to the measurement of learning agility. Finally, a self assessment of learning agility complements Korn/Ferry's other practices. The viaEDGE™ measure can be used in conjunction with *Decision Styles* in Korn/Ferry's Executive Search practice and in FutureStep as a mass distributed pre-employment screening tool.

Unfortunately, the direct measurement of learning agility is very difficult (Dunning, Heath, & Suls, 2004). In a selection situation, there has been much concern expressed that an individual's responses in a self assessment do not reflect their true standing on underlying traits of interest. Applicants often feel a desire to present themselves in a positive light and will "put their best foot forward." Such candidates will conscientiously manipulate their responses to inflate their scores. Our research has indicated that low performing individuals are more likely to fake good than others (De Meuse, Dai, Hallenbeck, & Tang, 2008). In addition, this research suggests that high learning agile individuals will tend to systematically express lower scores than others who rate them.

A significant effort was exercised to control such faking when we developed the self assessment. For example, we carefully and judiciously worded the survey items. We deliberately avoided using phrases or words that were socially desirable (i.e., questions that obviously made the test taker look good or bad). To further address such a tendency, we adjust for "social desirability" in our feedback report. In addition, based on an initial pilot test, we

removed items that had high mean scores. These items did not differentiate people, since most individuals scored high on them. We also incorporated several "verification scales" into the design of the feedback report. These verification scales enable test administers to interpret the scores and evaluate the likelihood that the scores represent the test taker's true standings on learning agility. A latter section of this report provides a more detailed review of these verification scales.

The Journey and the Team

Beginning in early fall of 2009, a research team was assembled to design and test this instrument. Team members included Drs. Bob Eichinger, Ron Page, Larry Clark, Guangrong Dai, and Ken De Meuse. Dr. Eichinger is the co-developer of the multi-rater *Choices*® instrument. His expertise and experience in high potential assessment and identification provided invaluable insights to the project. Dr. Page is an experienced psychometrician and the developer of a number of personality and behavioral assessment tools. He is the founder of Assessment Associates International (AAI). Dr. Clark brought many years of assessment and consulting experience. Drs. Dai and De Meuse served as subject matter experts (SME) and lead the data collection and analysis phases of the project. During the summer of 2010, Selamawit Zewdie joined the team as a research intern. She contributed to the data analysis and literature review.

Development of the viaEDGE™ Assessment

The earliest draft of the instrument had 166 questions. These questions were categorized into three different sections. Section I contained numerous personality and behaviorally oriented items using a 5-point Likert rating scale. The items originated from the following four sources: (a) the *Choices*® multi-rater assessment, (b) the *Workplace Behavior Inventory* (from AAI), (c) a comprehensive review of the learning agility literature, and (d) the SME panel itself. Section II contained work and life experience items. These items asked individuals to respond to various types of personal experiences (e.g., how many languages can one speak, how many countries has one lived in). The questions were derived from AAI assessments as well as created by the SME panel. The third section of the self assessment consisted of situational judgment theory questions. In this section, individuals were presented with workplace scenarios and asked to indicate what they would do in these situations.

The initial version of the assessment was pilot tested on 61 Korn/Ferry employees and Lominger Associates during February of 2010. Subsequently, the instrument was revised based on the results from a data analysis and the feedback from some of the participants. The second version of the instrument consisted of 158 items. From April to August of 2010, the second version was piloted tested on university students through the Graduate Management Admission Council (GMAC) and employees from several global companies. Further data analyses were conducted to refine the instrument. The final instrument contains 116 items. In total, approximately 1000 participants were involved in the development and validation of the viaEDGE™ self assessment instrument.

The Structure of the Instrument

The structure of the self assessment instrument is different in a number of ways than the *Choices*® multi-rater assessment. First, the viaEDGE™ instrument measures *Overall Learning Agility* that contains a unique set of survey items. In contrast, *Choices*® simply sums the

scores of the four factors comprising learning agility. Secondly, the new instrument measures a fifth factor of learning agility. It retains the original four factors of *Choices*®, namely:

1. ***Mental Agility*** – The extent to which an individual is comfortable with complexity, examines problems carefully, is inquisitive, and can make fresh connections between different concepts.

2. ***People Agility*** – The degree to which one is open-minded toward others, interpersonally skilled, and can deal readily with a diversity of people and difficult situations.

3. ***Change Agility*** – The extent to which an individual is comfortable with change, interested in continuous improvement, and in leading change efforts.

4. ***Results Agility*** – The degree to which an individual can deliver results in first-time and/or tough situations through sheer personal drive and by inspiring teams.

In addition, a fifth facet of learning agility – *Self-Awareness* – was incorporated into the instrument. In the *Choices*® multi-rater assessment, the construct of self-awareness is embedded in the People Agility factor. After reviewing the literature on leadership and the development of high potentials, it became evident that self-awareness was a significant component of learning agility that should stand alone. In the development of learning agility, self-awareness is a catalyst for internalizing lessons learned from experience (Dominick. Squires, &, Cervone, 2010; McCall, 2010). Without self-awareness, learning and development can translate into mindless reactions to the environment (Briscoe & Hall, 1999). Traditionally, the construct has been assessed indirectly by examining the difference between self ratings and others' ratings (i.e., the larger the difference, the less self aware). By disentangling it from the People Agility factor and measuring self-awareness directly, it provides individuals with concrete feedback on how aware they are of their environment and themselves.

*We define **Self-Awareness** as the depth to which an individual knows him or herself, recognizing skills, strengths, weaknesses, blind spots, and hidden strengths.*

Self-awareness, as an internal attribute, is not very observable to others. As such, measuring self-awareness via a multi-rater assessment is difficult. Typically, it is indirectly assessed by examining the difference between self and others' perceptions. A direct measure of self-awareness, on the other hand, can provide an explicit evaluation of self-awareness. By disentangling it from "People Agility," it provides learners with concrete feedback on how aware they are of their environment and themselves.

There are two other key differences between the two assessments. *Choices*® measures learning agility at the factor (4) and dimension level (27). The viaEDGE™ assessment measures learning agility only at the factor level (5). Finally, viaEDGE™ incorporates several mechanisms to enable test administers and executive coaches to determine whether the learner's scores on the self assessment are accurate (i.e., truly reflect his or her actual learning agility). Given that research suggests that some individuals tend to deliberately inflate or deflate their scores, a self assessment approach should contain a methodology to gauge the degree of faking and adjust scores accordingly. Consequently, we devised six "verification scales" in viaEDGE™ to address this issue. See next section.

Verification Scales

Benjamin Franklin once asserted that three of the hardest things known to humans are "steel, a diamond, and to know one's self." Given that some individuals truly may be unaware of their level of learning agility while others might try to deliberately distort their scores, the viaEDGE™ assessment has embedded various scales to determine the usability of the results. Each of the scales is reviewed below.

Self Presentation Scale. This scale identifies the extent to which an individual attempts to present him or herself in an overly positive manner (i.e., an image that is high in social desirability). Research suggests that many people have a tendency to deny socially undesirable traits and to claim socially desirable ones when they believe they are being scrutinized (Anderson, Warner, & Spencer, 1984). It reflects an intentional distortion of self-descriptions in order to be viewed favorably by others. Oftentimes, it is referred to as "social desirability." If an individual scores high on this scale, there is a good chance that this individual has intended to fake good on other scales as well. In contrast, some individuals are unassuming and tend to diminish their strengths. Our self assessment of learning agility also accommodates for this potential bias by adjusting each individual's agility scores accordingly.

Response Consistency Scale. Our instrument includes several "item pairs," in which one item is worded positively and the other worded negatively. In addition, some item pairs describe similar situations. Such a design enables us to determine the consistency of responses. When an individual responds to the paired items inconsistently, there is good reason to suspect the accuracy of the assessment in general. The individual might have paid little attention to the questions, had been distracted or multi-tasking during the assessment, or tried deliberately to distort survey responses. Whatever the cause, unless there is a high level of consistency, the assessment may not be a valid indicator of learning agility.

Work Style Counter Scale. Research reveals that learning agile individuals tend to possess a certain work style and demonstrate specific behavioral patterns (Lombardo & Eichinger, 2000). Likewise, such individuals typically do not perform other behaviors. For example, high learning agile individuals generally are not detail oriented, planful, or methodical. Since such behaviors frequently are deemed socially desirable, the assessment measures how often an individual agrees with these "non-agile/socially desirable" items. We call such survey items counter intuitive, because it would seem reasonable to agree with these statements. The Work Style Counter Scale serves as a check to ensure that the individual's agility scores are aligned with responses on this scale. When someone scores high the learning agility scales and low the counter scale (or vice versa), the test administers should collect additional information to determine whether this individual is learning agile or distorting his or her responses.

Life Experience Counter Scale. This scale functions similarly to the Work Style Counter Scale. However, this scale focuses exclusively on life experiences rather than work style items. Again, it serves as a check to affirm that the high or low learning agile individual responds to the counter intuitive items appropriately. If not, the veracity of the scores is suspect.

Profile Alignment. Research indicates that high learning agile individuals tend to score relatively higher on some scales than others. The Profile Alignment Scale compares individuals with the population norms. If a person's scores denote high learning agility, but he or she is *not* aligned with the scoring pattern for a highly learning agile individual, it suggests the scores might not be accurate. Likewise, if the scale scores denote a low learning agile individual, but the scoring pattern is similar to a high learning agile individual, it suggests a problem. In either case, the test administer should interpret the findings cautiously. Additional follow-up information from the respondent could clarify the situation.

Overall Confidence Index. Based on the above verification scales, an overall index bar is computed to indicate the level of confidence we can have regarding the accuracy of the assessment results. To simplify interpretation, a straightforward three-level index patterned after a traffic light is used. "Green" denotes that the verification scales affirm that the individual's scores are consistent and aligned as expected. The green portion of the bar is further divided into three sections indicating the degree of confidence. It is estimated that self assessment scores will occur in the green category about 70-80% of the time. The color "yellow" indicates that the verification scales, in general, reveal an accurate assessment. However, there are a couple of concerns that suggest some caution be used when interpreting the individual's scores. We estimate that this condition will occur about 10-15% of the time. Finally, "red" means that the respondent's scores should *not* be used. There are a number of problems in the manner in which the individual completed the survey that make interpretation unwise. It would be best if the individual re-take the assessment. Based on our pilot findings, it should occur about 5-10% of the time. In these cases, it is advised to request that the individual retake the viaEDGE™ assessment. Be sure to recommend that the person should complete the second assessment in a quiet setting, responding to the items in a relatively fast pace, and attempt to finish the assessment in one sitting.

Investigating the Factor Structure of the Assessment

As mentioned previously, we designed the viaEDGE™ assessment to measure five different facets or factors of learning agility. Two steps of data analysis were taken. Initially, we conducted an item analysis. Items that were not correlated with the majority of other items were deleted. Subsequently, we performed an exploratory factor analysis (Maximum Likelihood with Varimax Rotation) on the remaining items. The results revealed a nine-factor solution, but the last four factors were uninterpretable. Consequently, the exploratory analysis identified five robust factors corresponding to the proposed five facets of learning agility. Each factor contained eight items (highlighted in yellow) that we theorized as measuring that facet. If a factor loading was greater in a different factor, it was highlighted in gray (see Table 1).

To protect the proprietary nature of our intellectual property, the specific survey items are not revealed in Tables 1-3 of this technical report.

Table 1. Exploratory Factor Analysis of the Survey Items

Survey Item	Factor								
	Mental	People	Change	Results	Self Aware	6	7	8	9
Item 1	0.50	-0.01	0.18	0.24	0.18	0.09	0.07	-0.08	-0.02
Item 2	0.61	0.05	0.11	0.10	0.08	0.02	0.11	0.10	0.02
Item 3	0.37	0.09	0.27	0.10	0.13	0.26	0.30	0.22	-0.09
Item 4	0.65	0.09	0.15	0.10	0.13	0.09	0.06	-0.06	0.00
Item 5	0.19	-0.05	0.37	-0.04	-0.01	-0.10	0.15	-0.12	-0.01
Item 6	0.26	0.10	0.24	0.15	0.11	0.09	0.53	0.03	0.00
Item 7	0.28	0.11	0.31	0.09	0.05	0.04	0.51	0.07	-0.01
Item 8	0.36	0.01	0.13	0.03	0.15	0.04	0.09	0.14	0.04
Item 9	0.04	0.24	0.09	0.23	0.19	0.28	-0.06	0.10	0.33
Item 10	0.07	0.59	-0.09	0.06	0.13	0.11	0.08	0.05	0.05
Item 11	0.01	0.46	0.08	0.07	0.14	0.09	0.01	-0.01	0.52
Item 12	0.04	0.44	0.04	0.08	0.18	0.45	0.09	0.05	0.02
Item 13	-0.03	0.49	0.13	0.01	0.03	-0.03	0.08	0.02	0.06
Item 14	-0.01	0.70	0.01	0.02	0.17	-0.02	0.03	-0.07	0.05
Item 15	0.09	0.38	0.10	0.19	0.13	0.40	0.10	0.07	-0.03
Item 16	0.19	0.47	0.14	0.17	0.15	0.13	-0.19	0.05	0.00
Item 17	0.15	0.02	0.29	0.15	0.05	-0.15	0.32	0.29	0.03
Item 18	0.11	0.02	0.52	0.09	0.10	0.06	0.18	0.40	0.05
Item 19	0.04	0.02	0.59	0.00	0.00	0.12	-0.02	0.04	0.00
Item 20	0.13	0.07	0.57	0.01	-0.08	0.02	0.05	0.01	-0.05
Item 21	0.08	0.10	0.49	0.14	0.03	0.14	0.15	0.38	0.12
Item 22	0.05	0.16	0.34	0.23	0.14	0.15	0.21	0.07	0.23
Item 23	0.02	0.00	0.45	0.03	-0.04	-0.02	0.05	-0.07	0.09
Item 24	0.20	0.10	0.65	0.05	0.01	-0.01	0.09	0.16	-0.04
Item 25	0.16	-0.01	0.07	0.50	0.17	0.09	0.00	0.32	-0.09
Item 26	0.14	0.13	-0.06	0.62	0.06	0.13	0.04	-0.01	0.00
Item 27	0.16	-0.02	-0.05	0.56	0.08	0.27	0.02	-0.10	0.12
Item 28	-0.08	0.03	0.22	0.48	0.22	0.05	0.17	0.07	-0.04
Item 29	-0.06	0.12	0.18	0.52	0.18	-0.05	0.23	-0.08	0.15
Item 30	0.25	0.03	0.11	0.55	0.22	0.32	-0.05	-0.09	0.06
Item 31	0.07	0.07	-0.08	0.59	0.03	0.01	-0.06	0.09	-0.01
Item 32	0.05	0.03	0.25	0.47	0.10	-0.13	0.15	0.12	0.09
Item 33	0.15	0.09	0.01	0.09	0.52	0.07	0.07	0.07	0.05
Item 34	0.08	-0.01	0.05	0.08	0.24	0.32	-0.04	-0.01	0.14
Item 35	0.15	0.09	0.00	0.20	0.24	0.34	0.05	0.01	0.04
Item 36	0.08	0.11	-0.07	0.15	0.54	0.24	0.02	-0.12	-0.09

Survey Item	Factor								
	Mental	People	Change	Results	Self Aware	6	7	8	9
Item 37	0.10	0.21	-0.05	0.05	0.58	-0.04	0.01	0.05	0.00
Item 38	0.12	0.09	0.02	0.26	0.34	0.11	0.11	0.04	0.16
Item 39	0.02	0.05	0.03	0.25	0.49	0.15	0.05	0.08	0.10
Item 40	0.22	0.37	-0.02	0.07	0.55	0.11	0.00	-0.02	0.05

Note. N = 858. (R) denotes reverse coded item. The yellow highlighted factor loadings are on the 8 survey items that we *predicted* for each factor. Factor loadings highlighted in gray represent the highest loading for a given survey item.

Next, we conducted another factor analysis – this time forcing a five-factor solution. The results are presented in Table 2 beginning on the next page. Again, the findings strongly reinforced the notion that the items we conceptualized as measuring a given facet of learning agility, indeed, measured that factor.

Table 2. Forced 5-Factor Solution of the 40 Survey Items

Survey Item	Factor				
	Mental	People	Change	Results	Self Aware
Item 1	0.50	0.01	0.19	0.24	0.17
Item 2	0.55	0.04	0.23	0.10	0.11
Item 3	0.37	0.10	0.43	0.13	0.19
Item 4	0.64	0.10	0.18	0.10	0.13
Item 5	0.19	-0.06	0.35	-0.07	-0.05
Item 6	0.26	0.10	0.42	0.15	0.16
Item 7	0.27	0.10	0.49	0.08	0.09
Item 8	0.32	0.02	0.22	0.04	0.18
Item 9	0.00	0.35	0.11	0.29	0.21
Item 10	0.07	0.59	-0.03	0.06	0.14
Item 11	-0.05	0.53	0.10	0.10	0.14
Item 12	0.10	0.50	0.07	0.15	0.22
Item 13	-0.04	0.48	0.15	-0.03	0.01
Item 14	-0.01	0.68	0.00	-0.03	0.12
Item 15	0.14	0.42	0.14	0.23	0.17
Item 16	0.17	0.47	0.09	0.16	0.12
Item 17	0.06	-0.02	0.48	0.11	0.09
Item 18	0.04	0.03	0.65	0.10	0.13
Item 19	0.05	0.07	0.50	0.01	-0.04
Item 20	0.13	0.07	0.52	-0.02	-0.12
Item 21	0.02	0.13	0.61	0.15	0.07

Survey Item	Factor				
	Mental	**People**	**Change**	**Results**	**Self Aware**
Item 22	0.02	0.24	0.41	0.26	0.15
Item 23	0.01	0.03	0.38	0.02	-0.08
Item 24	0.16	0.10	0.66	0.02	-0.02
Item 25	0.11	-0.02	0.19	0.48	0.20
Item 26	0.14	0.15	-0.02	0.63	0.07
Item 27	0.19	0.06	-0.05	0.62	0.09
Item 28	-0.08	0.04	0.27	0.46	0.21
Item 29	-0.07	0.15	0.23	0.47	0.16
Item 30	0.28	0.12	0.07	0.59	0.22
Item 31	0.04	0.06	-0.04	0.56	0.03
Item 32	-0.02	0.02	0.34	0.42	0.09
Item 33	0.12	0.11	0.07	0.09	0.53
Item 34	0.10	0.10	0.02	0.16	0.26
Item 35	0.19	0.17	0.02	0.27	0.27
Item 36	0.14	0.16	-0.11	0.18	0.51
Item 37	0.07	0.21	-0.02	0.03	0.55
Item 38	0.09	0.15	0.09	0.28	0.35
Item 39	0.00	0.10	0.07	0.27	0.50
Item 40	0.21	0.40	0.19	0.07	0.54

Note. N = 858. (R) denotes reverse coded item. The yellow highlighted factor loadings are on the 8 survey items that we *predicted* for each factor. Factor loadings highlighted in gray represent the highest loading for a given survey item.

Table 3 reports the correlation coefficients for *each* survey item and the five agility scales, Overall Learning Agility, and three of the five verification scales (i.e., Self Presentation, Work Style Counter, and Life Experience Counter). The Response Consistency verification scale is determined by the relationship across 15 pairs of survey items. The mean inter-item correlation coefficient was 0.39. The Profile Alignment verification scale reports the degree of similarity between an individual's pattern of scores among the five factors relative to the population (norms) profile. Consequently, no item correlations are reported in Table 3 for both Response Consistency and Profile Alignment, because there is no direct assessment of an individual's responses. Rather, scores on both scales are derived statistically.

It should be noted that the Overall Learning Agility scale consists of a unique set of 13 items that were significantly correlated with more than one learning agility factor (see items highlighted in yellow in the last column of following table). In addition, three items from each of the five agility factors were identified to be included in the Overall Learning Agility scale (see asterisked items in last column of table). These items were highly correlated overall with learning agility. Consequently, the Overall Learning Agility scale has a total of 28 assessment items.

Items highlighted in green under each scale are research items that are *not* currently scored for that scale. Those items are conceptually and empirically *the next best items* for each respective scale. As we collect performance and promotion outcome data, we may include some of them in future versions of the viaEDGE™ instrument. Note that Table 3 includes the 40 personality items, as well as the work/life experience biographical items and situational judgment theory items included in the viaEDGE assessment.

Table 3. Survey Item Correlations with Factor Scale Scores

Survey Item	Mental	People	Change	Results	Self Aware	OVERALL
OVERALL LEARNING AGILITY						
Item 41	0.43	0.24	0.30	0.22	0.22	0.48
Item 42	0.11	0.30	0.10	0.15	0.23	0.38
Item 43	0.33	0.10	0.20	0.33	0.15	0.43
Item 44	0.24	0.29	0.23	0.46	0.27	0.58
Item 45	0.22	0.36	0.23	0.44	0.31	0.64
Item 46	0.14	0.15	0.15	0.40	0.17	0.45
Item 47	0.22	0.45	0.18	0.34	0.35	0.60
Item 48	0.24	0.21	0.19	0.27	0.23	0.45
Item 49	0.09	0.36	0.16	0.15	0.25	0.44
Item 50	0.19	0.33	0.18	0.25	0.27	0.46
Item 51	0.14	0.26	0.06	0.34	0.28	0.44
Item 52	0.29	0.09	0.46	0.14	0.06	0.38
Item 53	0.12	0.20	0.09	0.31	0.23	0.41
Item 79	0.08	0.10	0.12	0.27	0.24	0.30
Item 80	0.15	0.17	0.17	0.21	0.14	0.32
Item 81	0.14	0.22	0.18	0.24	0.27	0.37
Item 82	–	–	–	–	–	–
Item 83	0.31	0.14	0.44	0.20	0.18	0.38
Item 84	0.04	0.00	0.02	0.02	0.00	0.04
Item 85	0.00	0.00	0.03	0.03	-0.02	0.05
Mental Agility						
Item 1	0.47	0.12	0.19	0.31	0.22	0.37
Item 2	0.60	0.15	0.23	0.22	0.21	0.37
Item 3	0.55	0.21	0.39	0.24	0.25	0.54*
Item 4	0.57	0.18	0.23	0.23	0.24	0.43*
Item 5	0.50	-0.02	0.28	0.05	0.00	0.13
Item 6	0.58	0.19	0.33	0.29	0.23	0.49*
Item 7	0.60	0.17	0.39	0.22	0.17	0.43
Item 8	0.54	0.10	0.20	0.15	0.20	0.30

Survey Item	Mental	People	Change	Results	Self Aware	OVERALL
Item 86	0.27	0.05	0.22	0.24	0.17	0.28
Item 87	0.56	0.17	0.34	0.17	0.21	0.46
Item 88	0.38	0.04	0.18	0.16	0.15	0.30
Item 89	0.09	-0.06	0.03	-0.03	-0.01	-0.02
Item 90	0.03	-0.01	0.02	0.07	-0.04	0.02
Item 91	0.01	0.05	0.04	0.06	0.05	0.08
People Agility						
Item 9	0.06	0.50	0.12	0.26	0.30	0.48*
Item 10	0.10	0.62	0.03	0.14	0.29	0.28
Item 11	0.05	0.60	0.14	0.15	0.30	0.34
Item 12	0.15	0.59	0.13	0.19	0.34	0.42
Item 13	0.10	0.57	0.15	0.07	0.15	0.23
Item 14	0.05	0.66	0.05	0.09	0.28	0.28
Item 15	0.16	0.56	0.15	0.27	0.30	0.54*
Item 16	0.15	0.59	0.17	0.24	0.29	0.50*
Item 92	0.01	0.39	0.03	0.02	0.10	0.11
Item 93	0.18	0.46	0.14	0.24	0.36	0.48
Item 94	0.15	0.34	0.17	0.21	0.29	0.39
Item 95	-0.04	0.14	0.01	0.04	0.08	0.03
Item 96	0.09	0.18	0.03	0.01	0.11	0.11
Item 97	0.00	0.06	0.02	-0.07	-0.04	-0.01
Item 98	0.02	0.13	0.06	0.02	0.03	0.11
Change Agility						
Item 17	0.28	0.08	0.49	0.21	0.07	0.29
Item 18	0.32	0.12	0.65	0.22	0.15	0.42
Item 19	0.25	0.13	0.63	0.11	0.06	0.30
Item 20	0.29	0.11	0.58	0.10	-0.03	0.29
Item 21	0.31	0.20	0.63	0.25	0.13	0.50*
Item 22	0.24	0.28	0.46	0.33	0.26	0.52*
Item 23	0.16	0.05	0.50	0.07	-0.03	0.20
Item 24	0.39	0.16	0.71	0.16	0.09	0.44*
Item 99	0.28	0.22	0.48	0.29	0.23	0.52
Item 100	0.12	0.36	0.17	0.30	0.28	0.48
Item 101	0.14	0.00	0.17	-0.06	-0.04	0.08
Item 102	0.30	-0.03	0.29	0.01	0.01	0.19
Item 103	-0.04	-0.03	-0.02	-0.05	-0.01	-0.05
Item 104	-0.05	-0.01	0.00	-0.04	-0.02	-0.01
Item 105	0.10	0.01	0.08	0.05	0.00	0.05

Survey Item	Mental	People	Change	Results	Self Aware	OVERALL
Results Agility						
Item 25	0.14	0.10	0.16	0.59	0.22	0.43*
Item 26	0.09	0.20	0.00	0.63	0.23	0.43*
Item 27	0.10	0.13	0.02	0.57	0.23	0.34
Item 28	0.08	0.11	0.18	0.59	0.21	0.35
Item 29	0.11	0.20	0.17	0.61	0.23	0.44
Item 30	0.21	0.25	0.12	0.61	0.36	0.49*
Item 31	0.01	0.12	-0.04	0.63	0.13	0.29
Item 32	0.16	0.11	0.26	0.61	0.17	0.39
Item 106	0.12	0.11	0.24	0.23	0.11	0.35
Item 107	0.18	0.18	0.08	0.29	0.19	0.38
Item 108	-0.10	0.04	-0.05	0.32	0.09	0.12
Item 109	0.03	0.05	0.03	0.10	0.05	0.06
Self-Awareness						
Item 33	0.14	0.20	0.05	0.21	0.60	0.29
Item 34	0.09	0.16	0.06	0.15	0.48	0.24
Item 35	0.13	0.23	0.03	0.23	0.51	0.38*
Item 36	0.06	0.20	-0.10	0.21	0.61	0.24
Item 37	0.07	0.24	-0.01	0.14	0.59	0.23
Item 38	0.17	0.23	0.11	0.32	0.51	0.34
Item 39	0.02	0.18	0.01	0.29	0.56	0.36*
Item 40	0.18	0.42	0.02	0.21	0.62	0.42*
Item 110	0.08	0.20	0.08	0.30	0.29	0.27
Item 111	0.13	0.25	0.17	0.14	0.19	0.23
Item 112	0.06	0.05	0.08	0.01	0.05	0.06
Self Presentation						
Item 54	0.20	-0.04	0.08	-0.12	-0.16	-0.08
Item 55	0.09	-0.02	0.09	-0.26	-0.26	-0.18
Item 56	0.07	0.03	0.01	-0.07	-0.09	-0.07
Item 57	-0.01	-0.05	-0.09	-0.17	-0.19	-0.24
Item 58	-0.01	-0.08	-0.08	-0.16	-0.21	-0.19
Item 59	-0.06	-0.02	0.02	-0.26	-0.24	-0.23
Item 60	0.06	-0.08	0.03	-0.27	-0.24	-0.22
Item 61	0.05	-0.05	0.04	-0.20	-0.14	-0.16
Item 113	0.13	-0.01	0.09	-0.19	-0.13	-0.07
Item 114	0.03	-0.08	0.07	-0.20	-0.26	-0.22

Survey Item	Mental	People	Change	Results	Self Aware	OVERALL
Work Style Counter						
Item 62	-0.20	-0.05	-0.23	0.03	-0.06	-0.16
Item 63	-0.13	0.02	-0.26	0.23	0.16	0.06
Item 64	-0.24	-0.06	-0.28	0.04	-0.04	-0.14
Item 65	-0.19	-0.13	-0.39	-0.16	-0.08	-0.27
Item 66	-0.19	-0.07	-0.28	0.12	0.00	-0.06
Item 67	-0.25	-0.04	-0.33	0.12	0.08	-0.09
Item 68	-0.23	0.01	-0.27	0.24	0.14	0.01
Item 69	-0.12	-0.04	-0.20	0.26	0.03	0.00
Item 115	-0.05	-0.08	-0.18	0.14	0.05	-0.04
Item 116	-0.09	0.08	-0.18	0.06	0.17	0.06
Life Experience Counter						
Item 70	-0.14	-0.09	-0.16	-0.07	-0.05	-0.19
Item 71	-0.10	-0.19	-0.11	-0.10	-0.07	-0.24
Item 72	-0.19	-0.07	-0.19	-0.18	-0.09	-0.22
Item 73	-0.15	0.00	-0.16	-0.01	-0.02	-0.07
Item 74	-0.31	-0.14	-0.44	-0.20	-0.18	-0.38
Item 75	-0.13	-0.11	-0.18	-0.16	-0.08	-0.25
Item 76	-0.30	0.03	-0.29	-0.01	-0.01	-0.19
Item 77	-0.23	0.01	-0.23	-0.17	-0.15	-0.26
Item 78	-0.17	-0.05	-0.19	-0.12	-0.04	-0.17

Note. N = 858. (R) denotes reverse coded item. The yellow highlighted correlation coefficients represent the *expected* highest relationship per survey item. Coefficients highlighted in gray represent the highest loading for a given survey item. Asterisked (*) coefficients in the last column denote items included in the Overall Learning Agility scale.

Inter-Scale Correlations

Table 4 below reports the correlation coefficients among the five learning agility scales as well as for Overall Learning Agility. In general, the findings indicate some common variance among the five agility scales (albeit generally accounting for less than 10% of the variance). Thus, each facet assesses a unique perspective of learning agility. Not surprising, the five factors are more related to Overall Learning Agility than to each other.

Table 4. Correlations between viaEDGE™ Assessment Scales

Scale	Mental	People	Change	Results	Self Aware	OVERALL
Mental Agility	–					
People Agility	0.20	–				
Change Agility	0.48	0.21	–			

Scale	Mental	People	Change	Results	Self Aware	OVERALL
Results Agility	0.23	0.24	0.21	–		
Self-Awareness	0.22	0.41	0.07	0.31	–	
OVERALL AGILITY	0.53	0.58	0.52	0.62	0.51	–

Note. N = 858. All correlation coefficients are significant at the $p < .01$ level.

Internal Reliability Analysis

The "coefficient alpha" statistic provides an indication of the internal consistency of a scale. If all the items within a scale measure the agility factor similarly (i.e., reliably), they should be highly intercorrelated. An acceptable professional standard indicates that a scale is reliable when the coefficient alpha is greater than 0.70 (Nunnally & Bernstein, 1994). As one can see from the table on the following page, all five facet agility scales as well as the Overall Learning Agility scale reach this level of reliability. See Table 5 on the next page.

Table 5. Internal Consistency of Assessment Scales

Scale	Cronbach Alpha
Mental Agility	0.74
People Agility	0.76
Change Agility	0.77
Results Agility	0.78
Self-Awareness	0.74
OVERALL AGILITY	0.88

Note. N = 858.

Examination of Construct Validity

We investigated the validity of our new viaEDGE™ assessment by contrasting it with the scores on the following four different instruments:

1. *Learning from Experience* (*LFE*) interviews;
2. *Choices*® multi-rater assessment;
3. *Hogan Personality Inventory* (*HPI*) and *Hogan Development Survey* (HDS); and
4. *Decision Styles*.

The initial two assessments were designed specifically to measure learning agility. Therefore, we would expect a high correlation between viaEDGE™ and *LFE* and *Choices*®. The latter two assessments were designed to measure different psychological constructs related to general personality and leadership. We would expect certain scales would be modestly correlated to viaEDGE™ scores, but an overall lower relationship between the measures (see Guilford & Fruchter, (1978).

viaEDGE™ and *LFE* Interview Data

First, we collected the learning agility scores derived from *LFE* interviews. Two interviewers conducted each applicant interview – one was totally blind to the scores obtained from the self assessment; the other had an opportunity to view the self assessment scores prior to the interview. In all instances, the self assessment scores were *not* shared with the blind interviewer *and* the blind interviewer was the one responsible for completing the *LFE* scores. After debriefing the study with the two interviewers, we discovered in many instances neither interviewer looked at the self assessment scores prior to the interview.

The results of this validation study are presented in Table 6. As can be observed, all agility scale scores obtained by the viaEDGE™ assessment were significantly correlated to scale scores obtained via *LFE* (see yellow highlighted cells). Further, the correlation coefficient was highest between "like scales" (e.g., the relationship for the People Agility scale was 0.53 which was larger than any correlation coefficient between People Agility and any of the other agility scales). Thus, these findings strongly support the construct validity of the self-assessment.

Table 6. Correlation Coefficients between viaEDGE™ Assessment and *LFE* Data

viaEDGE™	***LFE* Interview**				
	Mental	**People**	**Change**	**Results**	**OVERALL**
Mental Agility	0.48**	0.15	0.45*	0.29	0.52**
People Agility	-0.06	0.53**	0.41*	0.23	0.37*
Change Agility	-0.06	0.28	0.51**	0.15	0.31
Results Agility	0.28	0.22	0.19	0.41*	0.40*
Self-Awareness	0.11	0.35	0.27	0.20	0.33
OVERALL AGILITY	0.07	0.46*	0.47*	0.36	0.48*

Note. $N = 29$ managers and executives at a large communications company located in Australia. To ensure the data collected were accurate, we checked the verification scales. One individual's data were eliminated from the analyses.
$^{*}p < .05$; $^{**}p < .01$.

viaEDGE™ and *Choices*® Multi-Rater Data

In addition, the *Choices*® assessment was administered concurrently with the new viaEDGE™ assessment to managers and executives in four different companies. There generally was a high degree of relationship between the two instruments. In particular, the correlations between Overall Learning Agility ($r = 0.61$, $p < .01$), and Mental Agility ($r = 0.51$, $p < .05$) were substantial. However, due to the small sample size, the correlations with People Agility, Change Agility, and Results Agility – although relatively high – did not reach statistical significance. See Table 7. Overall, the findings support the construct validity of viaEDGE™. Nevertheless, the *Choices*® assessment does not provide as strong of convergent and discriminant validity as obtained with data collected from *LFE*.

Table 7. Correlation Coefficients between viaEDGE™ Assessment and *Choices*® Data

viaEDGE™	*Choices*®				
	Mental	**People**	**Change**	**Results**	**OVERALL**
Mental Agility	0.51*	0.39	0.16	0.30	0.40
People Agility	0.36	0.41	0.14	0.50*	0.39
Change Agility	0.65**	0.50*	0.23	0.46*	0.53*
Results Agility	0.30	0.11	0.08	0.41	0.22
Self-Awareness	0.48	0.30	0.18	0.54	0.39
OVERALL AGILITY	0.69**	0.54*	0.34	0.68**	0.61**

Note. $N = 21$ managers and executives from four different companies in the technology, health care, and professional services industry sectors. To ensure the data collected were accurate, we checked the verification scales. Two individuals' data were eliminated from the analysis. $^{*}p < .05$; $^{**}p < .01$.

viaEDGE™ and *Hogan* Assessment Data

Initially, we correlated the viaEDGE™ scores to the *Hogan Personality Inventory* (*HPI*). Based on the Five-Factor Personality Model, the *HPI* aims to predict job performance. Assessment data collected by the *HPI* can be used for selection, leadership development, succession planning, and other talent management decisions. A brief description of the *HPI* scales is provided below.

1. **Adjustment** – Confidence, self-esteem, and composure under pressure. A high score denotes confidence, resilience, and optimism. A low score suggests being tense, irritable, and negative.
2. **Ambition** – Initiative, competitiveness, and desire for leadership roles. A high score indicates being competitive and eager to advance. A low score implies being unassertive and less interested in advancement.
3. **Sociability** – Extraversion, gregarious, and need for social interaction. High scores denote being outgoing, colorful, impulsive, and a dislike to working alone. Low scores suggest being reserved, quiet, and a preference to work alone.
4. **Interpersonal Sensitivity** – Tact, perceptiveness, and ability to maintain relationships. High scores reflect friendliness, warmth, and popularity. Low scores denote independence, frankness, and being direct.
5. **Prudence** – Self-discipline, responsibility, and conscientiousness. A high score reveals an individual is organized, dependable, and thorough. A low score indicates the individual is impulsive, flexible, and creative.
6. **Inquisitive** – Imaginative, curious, and creative. High scores suggest that an individual is quick-witted, visionary, and pays less attention to details. Low scores suggest that an individual is practical, focused, and able to concentrate for long periods of time.

7. **Learning Approach** – Achievement-oriented and up-to-date on business and technical matters. A high score denotes an enjoyment for reading and studying. A low score reveals that an individual is less interested in formal education than in hands-on learning.

In general, the relationship between the viaEDGE™ scales and *HPI* scales was modest (see Table 8). The findings indicate that the degree of correlation between the two assessments is largest with the Overall Learning Agility Scale. The Self-Awareness scale on viaEDGE™ had the lowest relationship with *HPI*; only one of the seven *HPI* scales was statistically related. As expected, the *Hogan* scales of Ambition, Sociability, Interpersonal Sensitivity, and Inquisitive had the highest *positive* relationships with viaEDGE™; whereas, Prudence had the only *negative* relationship. In total, the *HPI* data analysis supported the construct validity of the viaEDGE™ assessment. Scales that were hypothesized to be related were, but the degree of redundancy between the two assessments was minimal.

Table 8. Intercorrelations between viaEDGE™ and the *HPI*

HPI	**viaEDGE™**					
	Mental	**People**	**Change**	**Results**	**Self-Awareness**	**OVERALL**
Adjustment	-0.01	0.10	0.09	0.08	0.10	0.12
Ambition	0.02	0.20*	0.10	0.29**	0.34*	0.41**
Sociability	0.13	0.10	0.28**	0.21*	0.17	0.41**
Interpersonal Sensitivity	0.07	0.46**	0.16	0.17	0.08	0.29**
Prudence	-0.19*	0.09	-0.25**	0.12	0.00	-0.12
Inquisitive	0.42**	0.22**	0.34**	0.07	0.08	0.48**
Learning Approach	0.26**	-0.01	0.07	0.13	0.13	0.14

*Note. N = 1*19 MBA students attending 29 different universities throughout the world.
*$p < .05$; **$p < .01$.

Subsequently, we correlated the viaEDGE™ scales with the *Hogan Development Survey (HDS)* scales. The *HDS* identifies personality traits associated with performance risks and derailers of interpersonal behavior. *HDS* scales are divided into three sections: (a) "Moving Away," "Moving Against," and "Moving Toward." Each categorization and their corresponding scales are defined on the following pages.

Moving Away: Trying to Succeed by Intimidation and Avoiding Others

1. **Excitable** – Expect to be disappointed in a relationship; individuals always are looking to see if they are mistreated. When they perceive that they are mistreated, they become volatile and unpredictable. Difficulty building and maintaining a team.

2. **Skeptical** – Expect to be betrayed, cheated, or deceived. Believe in conspiracy theories and stay alert for signs of mistreatment. If they detect mistreatment, they retaliate directly.

3. **Cautious** – Fear being criticized, blamed, or possibly disgraced. As a result, they are constantly on guard against making mistakes. To avoid criticism, they follow rules and precedents, resist innovation, and cling to what has worked in the past.

4. **Reserved** – Indifferent to the expectations of others. Seems formal, aloof, introverted, and lacking in social insight. Are more interested in data and things than people. Communicate poorly. Difficulty building and maintaining teams.

5. **Leisurely** – Overtly pleasant and cooperative, but privately they expect to be mistreated and unappreciated. Stubborn and independent, cynical about others, and tend to focus on their own agenda.

Moving Against: Trying to Succeed by Charm and Manipulation

6. **Arrogant** – Expect to be admired, praised, indulged, and obeyed; expect to be successful in everything. In addition, self-assured, fearless, demanding, and pompous. Tend to take more credit than warranted and refuse to acknowledge failure, errors, or mistakes. Unable to learn from experience and alienate their colleagues.

7. **Mischievous** – Expect other people will find them charming, clever, and even irresistible. Consequently, they are willing to ask for favors without incurring obligations. They see themselves as bulletproof. They enjoy risk taking for its own sake, often living on the edge. They seem bright, witty, and engaging. Unable to learn from experience and, as a result, tend to be an underachiever (relative to their talent and capabilities).

8. **Colorful** – Expect that others will find them attractive and entertaining. Strong desire to be the center of attention. Always "on stage." They perform well during interviews, assessment centers, and other public settings. Impulsive and unpredictable. Unfocused, distractible, overcommitted, and always in search of the spot light.

9. **Imaginative** – Think about the world in different and often interesting ways. Alert to new ways of seeing, thinking, and expressing themselves. However, tend to come across as odd, eccentric, and flighty. Self-absorbed, insensitive to feedback, and indifferent to the social and political consequences of their egocentric focus on their own agendas. On the other hand, also tend to be bright, insightful, playful, and innovative. At their best, they are visionary, creative, and insightful.

Moving Toward: Try to Succeed by Ingratiating Others and Building Alliances

10. **Diligent** – Expect their performance to be rigorously evaluated. Have high standards of performance for themselves and others. Concerned with doing a good job, being a good citizen, and pleasing authority. Individuals will double their effort and try harder when they feel they have not lived up to their standard. They tend to be conservative, detail oriented, risk averse, steady, dependable, planful, and predictable. On the other hand, individuals become irritable when others don't follow their rules. They can be fussy, particular, and nit-picking micromanagers.

11. **Dutiful** – Think others expect them to behave well. Hence, such individuals are concerned about being accepted, being liked, and getting along especially with authority figures. They are alert to signs of disapproval and equally alert for oppor-

tunities to ingratiate themselves, to be of service, and to demonstrate their loyalty to the organization. They tend to be good natured, polite, and cordial and rarely make enemies in an organization. On the other hand, such individuals can be indecisiveness. As managers, they tend to do anything their boss requests, which can erode their legitimacy as leaders.

In general, the results indicate that viaEDGE™ and *HDS* are not highly correlated. Of the 25 statistically significant inter-scale correlation coefficients (out of a possible 66), only nine correlations were 0.30 or greater – suggesting that on most of the scales there is substantially less than 9% of common variance between the two instruments. Further, where there was a statistically significant relationship between scales, it made conceptual sense. For example, nearly all of the inter-scale correlations in the "Moving Away" section were negative. This pattern of results indicates that learning agility (as measured by viaEDGE™) is inversely related to "succeeding through intimidation and avoidance." Likewise, the Diligent scale and Dutiful scale in the "Moving Toward" section – suggesting detail orientation, risk aversion, steadiness, and planfulness – were negatively related to learning agility. On the other hand, *HDS* scales such as Arrogant, Mischievous, Colorful, and Imaginative in the "Moving Against" section were directly related to learning agility. Overall, the findings reveal the two assessments are clearly measuring different constructs. Yet, the scales between viaEDGE™ and *HDS* were *positively* or *negatively* related where it made logical sense. See Table 9 on the next page.

Table 9. Intercorrelations between viaEDGE™ and the *HDS*

HDS		**viaEDGE™**					
		Mental	**People**	**Change**	**Results**	**Self Awareness**	**OVERALL**
Moving Away	**Excitable**	0.04	-0.20*	-0.15	-0.09	-0.16	-0.16
	Skeptical	-0.12	-0.08	-0.11	-0.03	0.06	-0.01
	Cautious	-0.13	-0.19*	-0.16	-0.25**	-0.29**	-0.43**
	Reserved	-0.14	-0.46**	-0.20*	-0.10	-0.19*	-0.32**
	Leisurely	-0.13	-0.17	-0.15	-0.16	-0.21*	-0.21**
Moving Against	**Arrogant**	0.05	0.04	0.02	0.21*	0.31**	0.30**
	Mischievous	0.11	0.23*	0.32**	0.20*	0.16	0.40**
	Colorful	0.18	0.13	0.21	0.14	0.27**	0.44**
	Imaginative	0.26**	0.12	0.15	0.16	0.16	0.29**
Moving Toward	**Diligent**	-0.22*	0.06	-0.31**	0.23*	0.07	-0.04
	Dutiful	-0.04	0.13	-0.27**	-0.12	-0.06	-0.14

Note. N = 114 MBA students attending 29 different universities throughout the world.
*$p < .05$; **$p < .01$.

viaEDGE™ and *Decision Styles* Data

Finally, the relationship between scales on viaEDGE™ was contrasted with the scales on the Korn/Ferry *Decision Styles* assessment (see Brousseau, Driver, Hourihan, & Larsson, 2006; Driver, Brousseau, & Hunsaker, 1998). Data were collected from 114 MBA students attending 29 universities around the globe. *Decision Styles* distinguishes between an individual's Leadership Style (how you process information and make decisions in public) and Thinking Style (how you process information and make decisions in private). In the context of "Leadership Style," there are the following four scales:

1. **Task Focused** – While emphasizing rules and procedures, one drives for results in an outspoken, directive way. An individual leads by directing others, emphasizing rules and procedures, delegating tasks and responsibility, and is outcome oriented.

2. **Social** – One is friendly, outgoing, agreeable, approachable, and puts others at ease. An individual makes a good first impression, leads by initiating relationships, adapts to changing circumstances, and tends to be relaxed, tactful, and easy to get on with.

3. **Intellectual** – Is serious, methodical, logical, and articulate in the way one comes across. An individual leads through expertise, sets demanding goals, and supports views with data and logical arguments.

4. **Participative** – Is open to a range of opinions, works with others in a collaborative and team oriented fashion. One typically reaches across organizational boundaries and leads by building consensus. An individual tends to listen openly, is inquisitive, concerned with developing others, welcomes input, and fosters teamwork.

In the context of "Thinking Style," there are the following four scales:

5. **Action Focused** – One moves quickly to make things happen and achieves results on time and within budget. An individual quickly sizes up the situation, comes to closure with an eye on the bottom line, focuses on execution, is pragmatic when under pressure, monitors progress to achieve results, and moves quickly from analysis to action.

6. **Flexible** – One keeps options open and shifts views quickly as circumstances change. An individual tends to use intuition and hunches, quickly abandons one plan and embraces another to accommodate others, and works around obstacles with expeditious solutions.

7. **Complex** – One is a skillful strategist who seeks the best solution after thoroughly analyzing data. An individual defines a clear vision for the organization, sufficiently thorough in analysis of complex objectives, and carefully develops detailed long-term plans.

8. **Creative** – One thoroughly explores issues and options while focusing on the "big picture" and taking on broad input from all stakeholders. An individual identifies new opportunities, sees patterns and trends, develops multiple solutions, and understands the context.

In addition, *Decision Styles* assesses six "Emotional Competencies," including:

9. **Ambiguity Tolerance** – The capacity to cope with uncertainty, diversity, and unanticipated change.
10. **Composure** – The capacity to remain calm and clear-headed in the face of frustration or difficulties.
11. **Empathy** – The capacity to understand people and accurately perceive their strengths, weaknesses and feelings.
12. **Energy** – The capacity to handle complex and demanding tasks without tiring mentally or getting demotivated.
13. **Humility** – The capability to adapt one's behavior to fit the circumstance and recover from defeat without needing to blame others.
14. **Confidence** – The willingness to take on challenges that involve risk or conflict.

Finally, the following four different "Values" are measured by the *Decision Styles* assessment:

15. **Expert** – Indicates an individual attaches considerable importance to quality and accuracy, and is willing to go the extra mile to deliver work that is precise and properly thought through.
16. **Competitive** – One who seeks responsibility and enjoys influencing, making things happen and getting things done. An individual who is not satisfied with the status quo and frequently sets demanding goals.
17. **Learning** – One who enjoys trying new things, experimenting, and working in new areas. An individual who experiences considerable satisfaction in developing other people, the organization, and especially him or herself.
18. **Entrepreneurial** – An individual whose motives include becoming engaged in new or unusual activities. Change, being helpful, and delivering service to clients are very rewarding. One who enjoys calling the shots.

The degree of overlap between the viaEDGE™ assessment and *Decision Styles* ranged from an $r = 0.00$ to -0.50, with a mean correlation coefficient of 0.18. Hence, the overall degree of similarity between the two measures accounts for less than 3% of the shared variance. As one would expect, some scales were more related than others. None of the four Thinking Style scales were statistically significant. Indeed, there was virtually no relationship between the two assessments here. On the other hand, three of the four Leadership Style scales were significantly correlated with viaEDGE™. As one might hypothesize, the Task Focused scale was negatively related, suggesting that emphasizing rules, procedures, and policies is inconsistent with the learning agility construct. Leading in a friendly, agreeable, and approachable manner – aspects of the Social scale – is somewhat consistent with learning agility (see Table 10).

Table 10. Intercorrelations between viaEDGE™ and the *Decision Styles*

Decision Styles		viaEDGE™					
		Mental	**People**	**Change**	**Results**	**Self Awareness**	**OVERALL**
Leadership Style	Task Focused	-0.42**	-0.41**	-0.43**	-0.39**	-0.28**	-0.50**
	Social	0.38**	0.33**	0.37**	0.33**	0.18*	0.41**
	Intellectual	-0.02	0.13	-0.06	0.00	0.18*	0.07
	Participative	0.25**	0.12	0.32**	0.25**	0.04	0.25**
Thinking Style	Action Focused	0.00	-0.03	0.08	0.06	0.05	0.11
	Flexible	-0.04	-0.02	-0.04	-0.03	-0.11	-0.10
	Complex	0.00	0.00	-0.10	0.02	0.06	-0.04
	Creative	0.04	0.06	0.01	-0.05	-0.01	0.01
Emotional Competencies	Ambiguity Tolerance	0.25**	0.30**	0.42**	0.11	0.04	0.36**
	Composure	-0.35**	-0.36**	-0.49**	-0.37**	-0.15**	-0.50**
	Empathy	-0.03	0.08	-0.06	-0.03	-0.05	-0.08
	Energy	0.26**	0.18*	0.24**	0.12	0.17*	0.28**
	Humility	-0.21**	-0.18*	-0.24**	-0.22**	-0.15*	-0.30**
	Confidence	0.16*	0.02	0.18*	0.41**	0.20**	0.32**
Values	Expert	0.00	0.06	-0.19*	0.08	0.26**	0.12
	Competitive	0.21**	0.14	0.22**	0.36**	0.16*	0.37**
	Learning	0.30**	0.24**	0.30**	0.15*	0.16*	0.37**
	Entrepreneurial	0.28**	-0.08	0.24**	-0.01	-0.03	0.15*

Note. N = 114 MBA students attending 29 different universities throughout the world.
*$p < .05$; **$p < .01$.

Five of the six Emotional Competency scales were consistently – albeit modestly – related to the viaEDGE™ scales. Composure and Humility were inversely related; whereas, the Ambiguity Tolerance, Energy, and Confidence scales were positively related. Empathy generally was unrelated to learning agility. The *Decision Styles* scale with the strongest relationship was Composure, and it had a negative relationship. This result would suggest that high learning agile individuals tend to be temperamental and excitable when faced with frustration. The research on learning agility does not fully support this finding.

Two Values – Competitive and Learning – had a consistently positive relationship with the learning agility scales measured by viaEDGE™. In both instance, one would expect it to be the case. High learning agile individuals tend to seek responsibility and enjoy influencing others (Competitive scale), as well as trying out new things and experimenting (Learning scale).

Summary Evidence of Construct Validity

The two assessments that were administered to demonstrate convergent validity – *LFE* and Choices – established strong support for viaEDGE™. The *LFE* interview protocol and viaEDGE™ self assessment found same-scale correlation coefficients in the 0.40 – 0.50 range.

Overall learning agility as measured by these two assessments had an $r = 0.48$. Researchers generally state that a correlation coefficient above 0.40 for two different assessments of a construct suggest much similarity in measurement (cf. Wall, Michie, Patterson, & Wood, 2004). Likewise, the *Choices*® multi-rater assessment was highly correlated in same-scales. The overall learning agility scale had an $r = 0.61$ between the two assessments.

Discriminant validity was examined by the *Hogan HPI* and *HDS* personality assessments and *Decision styles*. Overall, these assessments correlated with viaEDGE™ scales as expected. Based on the entirety of data collected, we can conclude that viaEDGE™ demonstrates construct validity. Nevertheless, ongoing efforts should be conducted to increase the sample sizes to ensure robust generalizability of our findings.

Subgroup Analysis: An Investigation of Adverse Impact

A number of analyses were conducted to determine whether the new viaEDGE™ self assessment had adverse impact on any employee subgroups. Specifically, we examined age, gender, and ethnicity. We also investigated number of years of full-time employment and undergraduate grade point average (GPA) to ascertain whether those demographic variables were related to learning agility as measured by the viaEDGE™ assessment.

Gender Analysis

We performed two analyses to examine whether there were differences between male and female respondents to viaEDGE™. We initially investigated gender differences using the raw data. Subsequently, we transformed the raw data into percentiles and adjusted the scores for self presentation. Table 11 reports raw score gender differences on overall learning agility and the five factor scales. As can be observed, two scales – Mental Agility and Change Agility – have statistically significant gender differences ($p < .05$). However, the effective sizes are small. The average effect size across all scales was 0.17, which is within the typical range of gender differences reported by other self report assessments (see Ones & Anderson, 2002). Most importantly, the gender difference on the overall learning agility scale is not statistically significant ($p > .05$) and the effect size is trivial ($d = -0.17$).

Table 11. Gender Differences Based on Raw Scores

Scale	Female (n = 161)		Male (n = 280)		p	d
	Mean	*Std*	*Mean*	*Std*		
Mental Agility	3.76	0.52	3.95	0.52	$p < .05$	-0.36
People Agility	3.64	0.56	3.60	0.56	*ns*	0.06
Change Agility	3.03	0.62	3.19	0.60	$p < .05$	-0.26
Results Agility	3.64	0.51	3.72	0.66	*ns*	-0.13
Self-Awareness	3.90	0.48	3.93	0.46	*ns*	-0.06
OVERALL AGILITY	3.60	0.40	3.67	0.43	*ns*	-0.17

Note. N = 441 MBA students from 29 universities across the globe.

When the viaEDGE™ raw scores were transformed into percentiles and then adjusted for self presentation, any gender differences were further reduced. Table 12 presents the results. As can be seen, only the Mental Agility scale had a statistically significant difference, slightly favoring males. It should be noted that the effect size is quite small (d = -0.26). As was observed in the raw score analysis, no significant gender difference was found on overall learning agility.

Table 12. Gender Differences Based on Adjusted Percentiles

Scale	Female (n = 161)		Male (n = 280)		p	d
	Mean	***Std***	***Mean***	***Std***		
Mental Agility	0.46	0.27	0.53	0.29	$p < .05$	-0.26
People Agility	0.53	0.27	0.48	0.28	*ns*	0.19
Change Agility	0.46	0.28	0.52	0.28	*ns*	-0.19
Results Agility	0.49	0.24	0.51	0.28	*ns*	-0.09
Self-Awareness	0.50	0.27	0.51	0.25	*ns*	-0.03
OVERALL AGILITY	0.47	0.25	0.50	0.27	*ns*	-0.11

Note. N = 441 MBA students from 29 universities across the globe.

Age Analysis

Table 13 on the following page reports the correlation coefficients between respondent age and the viaEDGE™ learning agility scales. As can be observed, age is not related whatsoever to learning agility as assessed by the new instrument. One may ask whether these findings can be generalized to the employee population in actual work settings. In the current study, among those MBA students who provided demographic information, nearly 59% were full-time students. The remaining students were attending executive MBA or part-time MBA programs (N = 181). The average age of the full-time MBA students was 29; whereas, the average age of the other MBA students was 32. Regardless, the age of a respondent had no systematic effect on how he or she scored on the viaEDGE™ assessment.

Furthermore, we recently investigated the relationship between age and learning agility in a study of managers and executives working in a global pharmaceutical company. The sample size was more than 8000 employees. We found that learning agility (as assessed with *CHOICES*®) had virtually a zero correlation with age. Thus, evidence from two different studies using two different instruments suggest that learning agility is unrelated to age.

Table 13. Relationship between Age and viaEDGE™ Learning Agility Scales

	All MBA Students		*Part-Time MBA Students*	
Scale	r	*p*	*r*	*p*
Mental Agility	0.08	*ns*	*0.11*	*ns*
People Agility	-0.02	*ns*	*0.03*	*ns*
Change Agility	0.02	*ns*	*0.02*	*ns*
Results Agility	-0.01	*ns*	*0.01*	*ns*
Self-Awareness	-0.07	*ns*	*-0.01*	*ns*
OVERALL AGILITY	-0.02	*ns*	*-0.06*	*ns*

Note. N = 441 MBA students from 29 universities across the globe.

Ethnicity Analysis

A sample of 276 MBA students provided information related to ethnicity. Table 14 on the next page presents ethnicity percentile scores for Caucasians, Asians, and an eclectic group comprised of other minorities (e.g., Hispanic, American Indian, African American). A series of one-way ANOVA indicated that there were no statistically significant ethnicity differences on the five viaEDGE™ learning agility scales and on Overall Learning Agility. The reader should note, however, the sample sizes for the Asian and other minorities groups were relatively small.

Table 14. Relationship between Ethnicity and viaEDGE™ Learning Agility Scales

Scale	Caucasian (*n* = 211)		Asian (*n* = 38)		Other Minorities (*n* = 27)		*p* (ANOVA)
	Mean	***Std***	***Mean***	***Std***	***Mean***	***Std***	
Mental Agility	0.49	0.28	0.49	0.28	0.45	0.32	*ns*
People Agility	0.48	0.29	0.53	0.28	0.49	0.27	*ns*
Change Agility	0.47	0.29	0.48	0.28	0.43	0.28	*ns*
Results Agility	0.51	0.28	0.44	0.31	0.45	0.28	*ns*
Self-Awareness	0.50	0.27	0.47	0.29	0.53	0.29	*ns*
OVERALL AGILITY	0.50	0.26	0.44	0.29	0.50	0.26	*ns*

Note. N = 276 MBA students from 29 universities across the globe.

Relationship between viaEDGE™ and Years of Full-time Work Experience

Table 15 presents the correlation coefficients between years of full-time work experience and learning agility. As can be seen, none of the viaEDGE™ learning agility scales had a statistically significant relationship with years of work experience. It should be noted that we simply

correlated learning agility with the total years of working experience. There was no consideration for type or diversity of work experience. It is generally believed that variety of jobs and organizational experiences is positively related to learning agility (cf. Eichinger et al., 2010).

Table 15. Relationship between Full-Time Work Experience and viaEDGE™ Scales

Scale	*r*	*p*
Mental Agility	0.05	*ns*
People Agility	-0.05	*ns*
Change Agility	0.05	*ns*
Results Agility	-0.02	*ns*
Self-Awareness	-0.10	*ns*
OVERALL AGILITY	0.01	*ns*

Note. N = 442 MBA students from 29 universities across the globe.

Relationship between viaEDGE™ and Undergraduate GPA

A total of 375 MBA students self-reported their undergraduate grade point average (GPA) in our study. It was found that undergraduate GPA was unrelated to learning agility as assessed by the viaEDGE™ instrument. Somewhat surprisingly, the Mental Agility scale only had an *r* = -0.01 relationship with undergraduate GPA. Thus, this instrument likely will provide incremental validity over ability tests. See Table 16.

Table 16. Relationship between Undergraduate GPA and viaEDGE™ Scales

Scale	*r*	*p*
Mental Agility	-0.01	*ns*
People Agility	-0.03	*ns*
Change Agility	0.00	*ns*
Results Agility	0.03	*ns*
Self-Awareness	-0.07	*ns*
OVERALL AGILITY	-0.03	*ns*

Note. N = 372 MBA students from 29 universities across the globe.

Summary Evidence of No Adverse Impact

Several analyses were conducted to ascertain whether the new viaEDGE™ assessment exhibited any adverse impact. In sum, no statistically significant differences in Overall Learning Agility were identified for gender, age, ethnicity, years of full-time work experience, or undergraduate GPA. The sole difference pertained to the Mental Agility scale, in that males slightly outperformed females. This difference is similar as found in other self report measures (Ones & Anderson, 2002).

Concluding Remarks

Our goal was to design and validate a self assessment instrument to measure learning agility. In addition to assessing Overall Learning Agility, we desired to measure various facets of learning agility to provide individuals feedback on where are their strengths and growth areas. Using the well established *LFE* structured interview approach and the multi-rater *Choices*® assessment as a guide, the following five different factors of learning agility were incorporated in the newly developed viaEDGE™ instrument:

1. Mental agility,
2. People agility,
3. Change agility,
4. Results agility, and
5. Self-awareness.

The results of a series of factor analyses identified five robust factors corresponding to these five facets.

Additionally, the construct validity of the new assessment was demonstrated by administering viaEDGE™ and various other assessments concurrently to the same individuals. Scores on viaEDGE™ were directly compared to scores obtained through *LFE* interviews and *Choices*® and found to be significantly related, supporting convergent validity. Further, the *Hogan HPI* and *HSD* assessments and *Decision Styles* were administered to the large group of MBA students from a variety of universities around the world. As predicted, scores were modestly correlated on certain scales but largely unrelated to viaEDGE™ scores, supporting discriminant validity. Finally, a series of subgroup analyses found no evidence of adverse impact for respondent gender, age, or ethnicity.

Implications for Talent Management

Many recently published research articles have emphasized the need to identify and develop high potential employees early in their careers (De Meuse et al., 2010; Kaiser & Overfield, 2010; Silzer & Church, 2009). Learning agility is an important factor in the process. Virtually, all managerial and executive level jobs require individuals who are flexible, versatile, and who are self aware – in other words, learning agile. Although the use of multi-rater and interview methodologies can be appropriate in many cases, there are several benefits of a self assessment approach. For example, rater selection and training become a non-issue, because now the individual evaluates him or herself. When organizations wish to rate a large number of upper level managers, rater fatigue can occur (since the same executives often are rating several managers). Now, rater fatigue is not a problem. Moreover, the availability of another approach to identify high potentials and provide them with developmental feedback enables organizations an additional "touch point" when a multi-rater assessment may be too burdensome. And, obviously, the advantage of a self assessment of learning agility permits convenient administration to external job candidates. We believe viaEDGE™ can serve all these purposes.

Research suggests that the construct of learning agility is different than intelligence or the Big Five personality traits (cf. Connolly & Viswesvaran, 2002; Eichinger & Lombardo, 2004). Consequently, the viaEDGE™ instrument can be used jointly with IQ tests and personality inventories to more effectively assess various aspects of an employee's (or a job candi-

date's) qualifications. Further, the assessment can be utilized to identify weaknesses and strengths in a workforce with regard to learning agility, so organizations can provide developmental opportunities to the right employees at the right time. Thus, the assessment can be used both for personal and organizational development.

Future Research Directions

Several lines of research are needed. At present, viaEDGE™ has been validated using other learning agility assessments (namely, *LFE* and *Choices*®). The next phase of validation should be to collect performance ratings and job outcome data. Individuals who score high on the viaEDGE™ assessment likewise should be successful when promoted. We also could hypothesize that individuals who score high on the assessment should be more successful on international assignments and perform better on challenging jobs than those employees who score low. In addition, further evidence of convergent validity with *LFE* and *Choices*® would be beneficial given that the current sample sizes used in our study were relatively small. Diligence also must be directed to ensure that viaEDGE™ continues to have no adverse impact.

Thus far, viaEDGE™ has been administered to approximately 1000 employees in nearly a dozen organizations around the globe. Our viaEDGE™ norms in which the learning agility percentiles were established are based on those individuals. As we continue to collect data from around the world, these norms and corresponding percentiles will need to be updated. Eventually, we will have sufficient sample sizes to examine whether there are industry sector, job function, or regional differences in learning agility. It should be noted that no regional differences have been found in learning agility using data collected from *Choices*® (see De Meuse et al., 2008).

As previously mentioned, a number of research questions have been incorporated into the viaEDGE™ instrument which are not presently scored. The additional data collected during the next year will enable factor analyses to confirm or slightly modify our existing structure. Moreover, performance and outcome criteria will provide additional opportunities to fine tune the items selected to measure learning agility. The data from this study strongly suggest that the viaEDGE™ assessment works. It will be exciting in the years ahead to continue to refine the instrument and identify new organizational applications for the tool.

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